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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,693	01/26/2004	Jian Chen	SAND-01010US0	1419
64948	7590	09/27/2006	EXAMINER	
VIERRA MAGEN/SANDISK CORPORATION			TRAN, ANDREW Q	
575 MARKET STREET			ART UNIT	
SUITE 2500			PAPER NUMBER	
SAN FRANCISCO, CA 94105			2824	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/765,693	Applicant(s) CHEN, JIAN	
	Examiner Andrew Q. Tran	Art Unit 2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,9-14,17-20 and 24-32 is/are rejected.
- 7) ☒ Claim(s) 6-8,15,16 and 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/23/2004 and 07/22/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of the invention of Group I (claims 1-24) in the reply filed on November 01, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

However the Restriction Requirement of September 29, 2004 is withdrawn to allow Applicant to claim a reasonable number of variants for his inventions. Therefore claims 25-32 are herein further treated on the merits along with elected claims 1-24.

Abstract

The abstract of the disclosure is objected to because:

At page 27, line 1, --a-- should be added before "non-volatile"; at line 4, "word line" (2nd occurrence) should be changed to --the word line--; and at line 5, "word line" should be changed to --the word line--.

Correction is required. See MPEP § 608.01(b).

Drawings

The drawings are objected to because:

In Fig. 7, in step 706, the "right arrow" should be labeled with --NO--; and the "down arrow" should be labeled with --YES--.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

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sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 26-31 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 26-31 recite a method which depends from apparatus claim 25, reciting a memory system.

Claims 1, 6-7, 17, 19, 21-22, 25, 27 and 29-32 are objected to because of the following informalities:

In claim 1, line 5, "the" should be changed to --a--. In claim 6, line 1, "claim 1" should be changed to --claim 2--. In claim 7, line 1, "claim 1" should be changed to --claim 6--.

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In claim 17, line 6-7, "check value" should be changed to --check voltage--; at line 7, "selected" should be changed to --adjacent--; and at line 8, --said first-- should be added before "word line". In claim 19, line 1, --selected-- should be added before "bit". In claim 21, line 1, "claim 17" should be changed to --claim 18--; and "th" should be changed to --the--. In claim 22, line 1, "claim 17" should be changed to --claim 21--; and --selected-- should be added before "bit".

In claim 25, line 8-9, "check value" should be changed to --check voltage--; at line 9, "selected" should be changed to --adjacent--; and at line 10, --the first-- should be added before "row line". In claim 27, line 1, --selected-- should be added before "bit". In claim 29, line 1, "claim 25" should be changed to --claim 28--; and --selected-- should be added before "bit". In claim 30, line 1, --the selected bit-- should be added before "includes"; and at line 2, "the" (both instance) should be changed to --a--. In claim 31, line 2, "a" should be changed to --the--.

In claim 32, line 6, --the first-- should be added before "word line"; and at line 7, "selected" should be changed to --adjacent--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 is incomplete as failing to recite the interconnections between claimed elements/features. That is, the elements "an array of multi-state memory cells" (claim 25, line 3)

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and "a controller" (claim 25, line 4) are not interconnected with each other or to other elements. It is suggested to use terms such as --connected to-- or --coupled to-- to satisfy the requirements.

Furthermore, claim 32 is indefinite as reciting numerous "means plus function" elements, which are not clearly described in the specification. Applicant is required to clarify these "means plus function" vis-à-vis current specification and drawings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 9-14, 17-20, 24-27 and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (US Pat 5,867,429 hereafter "Chen"). See Figs. 9 and 10.

As to claim 1, Chen teaches a method for reading a nonvolatile memory, comprising the steps of selecting a word line to be read (step 171 in Fig. 9); reading an adjacent word line written after the word line (step 173); and reading a selected bit in the word line by selectively adjusting at least one read parameter (step 179). As to claims 2-5, see Fig. 10. As to claims 9-11, see step 175 of Fig. 9. As to claims 12-14, see col. 1, ln. 11.

Claims 17-20, 24-27 and 31-32 are rejected on similar grounds.

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Claims 1-5, 9-14, 17-20, 24-27 and 31-32 are additionally rejected under 35 U.S.C. 102(e) as being anticipated by Hosono et al. (US Pat 6,999,344 hereafter "Hosono"). See for example, Figs. 4, 7-8 and 11-12.

As to claim 1, Hosono discloses a method for reading a nonvolatile memory, comprising the steps of selecting a word line to be read (step S2 in Fig. 8); reading an adjacent word line written after the word line (step S1); and reading a selected bit in the word line by selectively adjusting at least one read parameter (step S4 and S5). As to claims 2-5, see Figs. 9B and 12. As to claims 9-11, see col. 7, ln. 53-60. As to claims 12-14, see col. 10, ln. 14-22.

Claims 17-20, 24-27 and 31-32 are similarly rejected.

Allowable Subject Matter

Claims 6-8, 15-16, 21-23 and 28-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a method for reading a nonvolatile memory by selectively adjusting at least one read parameter, wherein the read parameter is a precharge voltage, as required by claims 6, 15-16, 21, 28 and 30.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Tang et al. (US Pat 5,120,671) describes a process for self-aligning a source region with a field oxide region and a polysilicon gate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Q. Tran whose telephone number is (571) 272-1885. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Andrew Q Tran
Primary Examiner
Art Unit 2824

at
September 24, 2006